

DENVER FORECAST DISTRICT

A disturbance that was central over western Colorado on the morning of the 1st moved southeastward at a uniform rate, followed by showers over Utah and western and northern Colorado. The next disturbance affecting this district approached the Washington coast on the morning of the 2d; by the morning of the 3d it was well defined in southern Nevada. It then pursued a more or less halting course across the district, reaching eastern Colorado on the 5th, when it abruptly changed direction and dropped southward into New Mexico and the Texas Panhandle, where it remained about stationary until the evening of the 8th and then moved rapidly northeastward. Precipitation accompanying this storm did not begin in this district until the night of the 4th. Thereafter it occurred very irregularly, both as to time and geographical distribution, mostly over Utah and Colorado, until the morning of the 9th.

On the evening of the 4th, when the center of the storm was over Utah and it seemed certain that it would move eastward across northern Colorado, and in view of the serious fire hazard known to exist in the forests, a warning of fresh to strong southerly winds Sunday in Colorado was issued and the district forester's office at Denver notified. This warning was fully justified. The week from the 9th to the 16th was characterized by mostly high barometric pressure north and northwest of the district and moderately low pressure over the southwest, a condition resulting in fair, mild weather for the whole district. By the evening of the 15th the southwestern LOW became active and took a northerly course to northeastern Colorado, where it was centered on the evening of the 17th, thereafter moving eastward without causing precipitation in this district.

The most important disturbance of the month developed in southwestern Utah during the night of the 18th; it then spread out over most of the Plateau and southern Rocky Mountain districts, where it remained for several days, most of the time with two or three separate LOW centers, first one and then another of which would appear predominant. The whole system assumed a definite conformation, with a center over southeastern Wyoming on the evening of the 22d, and thereafter pursued a most abnormal course north-northwestward to north-central Montana and thence eastward and northeastward into Canada. The northward tendency of this disturbance was foreshadowed on the 21st by an abrupt cooling, accompanied by heavy precipitation, in Arizona. The precipitation accompanying this storm prior to this date was very light and confined mostly to Utah. On the evening of the 22d a warning of fresh westerly winds in eastern Colorado for the following day was issued and the Forest Service notified. Fairly high winds occurred in northeastern Colorado. During the last five days of the month low pressures prevailed generally over the southwest, but there was no really active storm center.

On the 27th an unusually strong anticyclone that had occupied the British Columbia coast for about two days began to drift rapidly southeastward. By the morning of the 28th it was centered in southeastern Montana, had increased in intensity, and was moving very rapidly southeastward; it then took a more southerly course and reached well into Texas by the morning of the 29th, causing a rather severe freeze in northeastern

Colorado, and a very sharp temperature fall in eastern New Mexico. The freeze in Colorado was covered by a warning issued on the morning of the 28th of frost for the State, with freezing temperature in the northeast portion. Other frost and freezing temperature warnings, nearly all of which were followed either by frost or the occurrence of temperatures low enough for its formation, were issued as conditions seemed to require, and in nearly all parts of the district at one time or another on 19 mornings throughout the month.—*E. B. Gittings, jr.*

SAN FRANCISCO FORECAST DISTRICT

The month opened with an unsettled, rainy condition over the northern and central portions of this district during the first five days, which extended into southern California and southern Nevada on the 4th, 5th, and 6th. Light rain again occurred from central California northward on the 11th and in western Washington on the 12th. A prolonged period of unsettled and rainy weather prevailed over the central and northern portions of this district from the 15th to the 22d. The rainfall during this period was quite heavy in the San Joaquin Valley and portions of southern California and was of great benefit to all agricultural and horticultural interests. It brought the seasonal rainfall in the San Joaquin Valley to about the normal and in southern California to about one-half the normal to date.

From the 7th to the 10th and from the 12th to the 15th fair and quite warm weather prevailed over the entire district. In eastern Washington it was especially warm, and the record for high temperature in April was broken at Walla Walla on the 9th.

Heavy frosts occurred in eastern Washington and eastern Oregon on the 20th and 21st, and heavy to killing frosts in Nevada, Idaho, eastern Washington, and eastern Oregon from the 24th to the 28th. Frost warnings were issued during these periods in the districts affected.

Storm warnings were issued from Marshfield to Tatoosh Island on the 1st, 2d, and 18th, and from Port San Luis to San Diego on the 4th.

Forecasts for the fruit-frost service at Medford, Oreg., and at stations in eastern Washington were commenced on the 10th.

Warnings of expected high seas were issued to the United States Engineers working on the jetty at the entrance of Humboldt Bay on the 2d, 17th, 27th, 29th, and 30th.—*G. H. Willson.*

RIVERS AND FLOODS

By ROBIN E. SPENCER

As will be noted in the table below, the few floods of April, 1925, were widely scattered and of little magnitude. The Connecticut River flood, which was discussed in the March number of this REVIEW, continued for a few days in April without further reported damage; and the rises in the White River of Arkansas, the Grand River of Missouri, the Rio Grande, and the Trinity and Willamette rivers, for all of which warnings were issued in time to save any jeopardized property except small areas of lowland crops, were without damage of consequence. As the flood in the Sulphur River attained its greatest importance below Ringo Crossing, Tex.,

and after the close of the month, it will be discussed in the May issue of this REVIEW.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, APRIL, 1925

By J. B. KINCER

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC DRAINAGE					
Connecticut:	<i>Feet</i>			<i>Feet</i>	
White River Junction, Vt.	15	(1)	2	22.5	Mar. 29
Holyoke, Mass.	9	(1)	(1)	9.4	31
Hartford, Conn.	16	(1)	3	20.5	Apr. 1
MISSISSIPPI DRAINAGE					
Illinois:					
Henry, Ill.	7	(1)	9	9.6	{ Mar. 24, 25, 26
Havana, Ill.	14	(1)	2	14.3	{ 27-30
Beardstown, Ill.	12	(1)	14	15.4	{ 28, 29
White:					
Calico Rock, Ark.	18	28	29	20.5	28
Batesville, Ark.	23	29	30	25.6	29
Sulphur: Ringo Crossing, Tex.	20	{ 11 27	12 (1)	20.5 23.4	{ 12 28
Grand:					
Gallatin, Mo.	20	25	25	21.0	25
Chillicothe, Mo.	18	25	27	24.5	26
Brunswick, Mo.	10	27	29	10.0	27-29
WEST GULF DRAINAGE					
Trinity: Dallas, Tex.	25	27	27	25.3	27
Rio Grande: San Marcial, N. Mex.	2	18	24	2.4	20
PACIFIC DRAINAGE					
San Joaquin: Friant, Calif.	8	{ 13 27	18 30	9.1 8.9	17 29
Willamette: Portland, Oreg.	15	20	24	15.6	22

- 1 Continued from last month.
 2 Continued at end of month.
 3 Below flood stage at 8 a. m. Apr. 1.
 4 Estimated.

MEAN LAKE LEVELS DURING APRIL, 1925

BY UNITED STATES LAKE SURVEY

[Detroit, Mich., May 6, 1925]

The following data are reported in the "Notice to Mariners" of the above date:

Data	Lakes ¹			
	Superior	Michigan and Huron	Erie	Ontario
Mean level during April, 1925:	<i>Feet</i>	<i>Feet</i>	<i>Feet</i>	<i>Feet</i>
Above mean sea level at New York	600.85	578.50	571.35	245.61
Above or below—				
Mean stage of March, 1925	+0.05	+0.12	+0.44	+0.41
Mean stage of April, 1924	-0.16	-0.39	-0.42	+0.25
Average stage for April, last 10 years ..	-0.86	-1.65	-0.83	-0.39
Highest recorded April stage	-1.84	-4.73	-2.83	-2.82
Lowest recorded April stage	+0.31	-0.39	-0.29	+0.77
Average relation of the April level to—				
March level		+0.3	+0.6	+0.6
May level		-0.3	-0.4	-0.4

¹ Lake St. Clair's level: In April, 1925, 573.70 feet.

General summary.—As a result of the generally mild and mostly fair weather that prevailed during April, both vegetation and farm work advanced rapidly for the season and were considerably ahead of an average year, except in the Southwest where the soil was too dry for planting and for germination and growth. There was some frost damage to fruit and tender vegetation in limited areas, but harm was not extensive. In the Southeast, during the latter part of the month, late-seeded crops needed showers for best germination, but the early seeded were generally doing well. In the great western range sections the weather was favorable for the range and livestock from the central and northern Great Plains westward, but severe drought prevailed in the South, especially in the southern border States where a large portion of the range was poor and in many places bare, with considerable loss of livestock.

Small grains.—The month, on the whole, was favorable for winter and spring grains in the interior and Central-Northern States. The seeding of oats and spring wheat had been largely completed at the close of the month and germination was satisfactory. Winter wheat improved steadily, especially in the western portion of the Winter-Wheat Belt where rainfall was of great benefit. This crop was spotted, however, in parts of the Ohio Valley and the general condition continued poor in the upper valley districts.

Corn.—Considerable corn was planted in the central valley States the last part of the month and seeding was begun in the Great Plains as far north as central Nebraska. Corn was germinating satisfactorily, except where it was too dry in parts of the South, principally in the Southwest, though rain during the closing days of the month furnished needed moisture in these sections. An unusually large amount of corn ground was prepared early this year as a result of the favorable weather for outdoor operations.

Cotton.—Favorable weather prevailed for planting cotton and for germination of seed in the central and eastern portions of the belt; early cotton came up generally to a good stand. In the West the drought further delayed planting especially in Texas, and early-planted cotton made poor progress, except in local areas. Near the close of the month, however, the drought was relieved by generous rains which materially improved the outlook and planting was pushed vigorously, but in the meantime the lack of moisture was beginning to be felt in central and eastern cotton States. The last days of April were much too cool for cotton in all parts of the belt, the low temperatures being decidedly unfavorable for germination of late plantings.